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A SALES AND INVENTORY DATA BASE SYSTEM FOR CCRMP

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MICROMEDIA

A SALES AND INVENTORY DATA BASE SYSTEM FOR CCRMP

A sales and inventory data base system has been developed based on dBASE IV. The system consists of four relational data bases, CUSTOMER, ORDERS, ORDERITM, and INVENT along with about forty menu-driven programs written in the dBASE programming language.

CUSTOMER records contain all of CCRMP's customer information - customer number, company name, individual's name, province or state, country, type of institution, shipping address, and billing address.

ORDERS records contain the CCRMP reference number, the customer number, the date, P.O. number (if any), and the type of transaction.

ORDERITM records contain the CCRMP reference number, the name of the reference material, the quantity sold, and the price.

INVENT records contain the name of the reference material, a description, the size of the unit, the number in stock, the unit price, and the list of reports to be shipped with the material (if any).

Since the system is all menu-driven, there is little or no need to access these data bases individually.

The Menu System

The PC-compatible computer used by CCRMP is set to start up dBASE IV when it is turned on. The data bases and programs reside in the C:\DBASE\CCRMP directory of the hard disk. If required, the system can be started from MS-DOS as follows:

```
CD\DBASE\CCRMP
DBASE
```

On starting up dBASE IV, the user is required to give turn-key passwords and is then prompted to assent to Ashon-Tate's licence agreement. After that, he is put into the MAIN MENU which is illustrated in Figure 1. There are five systems in the MAIN MENU plus the option to use generic dBASE IV. The first four systems all have sub-menus which are described separately.

The CUSTOMER SYSTEM menu is shown in Figure 2. The first sub-menu, FIND CUSTOMER, is expanded into 5 more choices:

1. SEARCH FOR CUSTOMER. This is the most common way to locate a customer and determine its customer number. Only part of the Company Name need be entered.

2. LIST BY FIRST LETTER. This is almost the same as 1. It might be used when the spelling of the company is in doubt.

3. LIST BY COUNTRY. This option could be tried when option 1. fails to find the customer. It can also simply be used to produce a hard copy list.

4. LIST BY PROV/STATE. This is similar to 3.

5. LIST BY TYPE INST. This option is more likely to be used to produce a listing than as a means to locate a customer.

The second sub-menu in the CUSTOMER SYSTEM is ADD CUSTOMER. This provides a full-screen menu for adding a new customer to the system. The third sub-menu, CHANGE CUSTOMER, presents the same menu all filled in when you give a customer number. Any field can be changed. The fourth sub-menu, DELETE CUSTOMER, causes restructuring of the data base indexes when a customer is deleted. The fifth sub-menu, DISPLAY CUSTOMER, is often used after a customer is located with the first sub-menu. It displays complete customer information enabling one to confirm an initial guess. The sixth sub-menu, LIST ORDERS, gives a list of all the recent orders for a customer. This is handy for checking whether an order is new or simply confirmation of a previous telephone or telefax order - they are often not marked as such. The last sub-menu, PRINT LABELS, is expanded into 6 more choices. All of

these have the option to print or not. They can be used to make a list of shipping addresses or to print them on address label paper. They are:

1. SINGLE CUSTOMER. This could be used repeatedly to prepare labels for a list of specific customers.

2. ALL CUSTOMERS. Do you really want 1000 labels?

3. EXPORT PERMITS. This will produce a list of addresses of foreign customers for whom CCRMP has obtained the necessary permits to ship radioactive materials.

4. ALL FOR A COUNTRY
5. ALL FOR A PROV/STATE
6. ALL FOR A TYPE INST. These last three would more likely be used for lists rather than mailing labels.

The ORDER SYSTEM is shown in Figure 3. There are seven sub-menus.

1. ADD NEW ORDERS. This menu reminds one of the last order and prompts him to enter all of the information for a new order. It creates a record in the ORDERS database and one or several records in the ORDERITM database. It also debits the inventory in the INVENT database. At the end, it gives the option to print the transmittal slip or to defer printing.

2. CHANGE ORDERS. This should be used cautiously. It is not intended to remove records from the ORDERS and ORDERITM databases. It can change items within an order. All items can be changed, even the reference number and customer number. If a reference material is changed, the former one's inventory is credited, and the new one's is debited. It can not delete an item. Use option 3 for this.

3. REMOVE ORDERS. This totally wipes out records from the databases and causes restructuring of the indexes for both the ORDERS and ORDERITM data bases. This should be used with care. It would be used when an order is returned or canceled. The inventory is credited with the returned materials. It might be used when a mistake has been discovered that is too complex to deal with using option 2.

4. DISPLAY ORDERS. This would most often be used after the fact to check on a previous order.

5. LIST ORDERS FOR A MATERIAL. This option is taken from the ROLL-UP SYSTEM and reproduced here for convenience of the user. It provides a list to show which customers have been purchasing a particular reference material.

6. PRINT ORDERS. This would be used if printing was deferred from option 1 or if another copy of the transmittal slip is required in case the original was lost or eaten by the printer.

7. PRINT LABELS. This option allows printing of the shipping label for the outside of the box. Unfortunately, not all printers permit printing of a short form such as a single label. The printer currently used by CCRMP does not allow this.

The INVENTORY SYSTEM is shown in Figure 4. This system is not used as frequently as the others. For this reason, less-sophisticated programs are used along with common dBASE commands[1] There are 5 sub-menus.

1. ADD NEW MATERIALS. This option uses dBASE's APPEND command.

2. MAKE CHANGES. The material name is entered and dBASE's EDIT is run.

3. DISPLAY INVENTORY. This option shows the current inventory on the screen, stopping when the screen is full. There is also an option to print.

4. PRINT INVENTORY. This uses the dBASE report form generator. It prints the current inventory.

5. PAST INVENTORY. This custom program lists the inventory on some earlier date. The list can be printed as an option.

The ROLL-UP SYSTEM is shown in Figure 5. It provides answers to common queries regarding sales. There are 4 sub-menus.

1. SALES BETWEEN DATES. This provides a total sales figure between given dates with no breakdown. It is the fastest roll-up, although every order prior to the second date specified must be checked - it does take time.

2. BREAKDOWN BY MATERIAL. This menu gives the same totals as option 1, but also totals for each material and a breakdown by country. This roll-up checks all four data bases and therefore takes longer. There is an option to print the list.

3. LIST ORDERS FOR CUSTOMER. This program is a repeat from the CUSTOMER SYSTEM. It can be considered a roll-up, though, and is here for convenience.

4. LIST ORDERS FOR MATERIAL. This is a repeat from the ORDER SYSTEM. It is here also for convenience.

The BACKUP SYSTEM is unique. It prompts the user to put empty floppy diskettes in the drive and it backs up the four databases and their multiple indexes from the hard disk.

Backing-up should be done at least once a month. It is important that the diskettes not have anything else on them as the files, particularly the CUSTOMER.DBF file, are quite large and will not fit on a single diskette. For safety, it is recommended that 3 back-up copies be retained. When ready to do the fourth, the first one can be wiped and the diskettes reused. This way, if anything goes wrong, there will still be two good back-ups.

To reload from the back-up is quite complicated because the CUSTOMER.dbf file is not all in one piece and the indexes are messed up. A detailed recipe is provided in the Appendix if the requirement arises.

Reference

1. dBASE IV LANGUAGE REFERENCE, Ashton-Tate Corporation 1988.

Figure 1

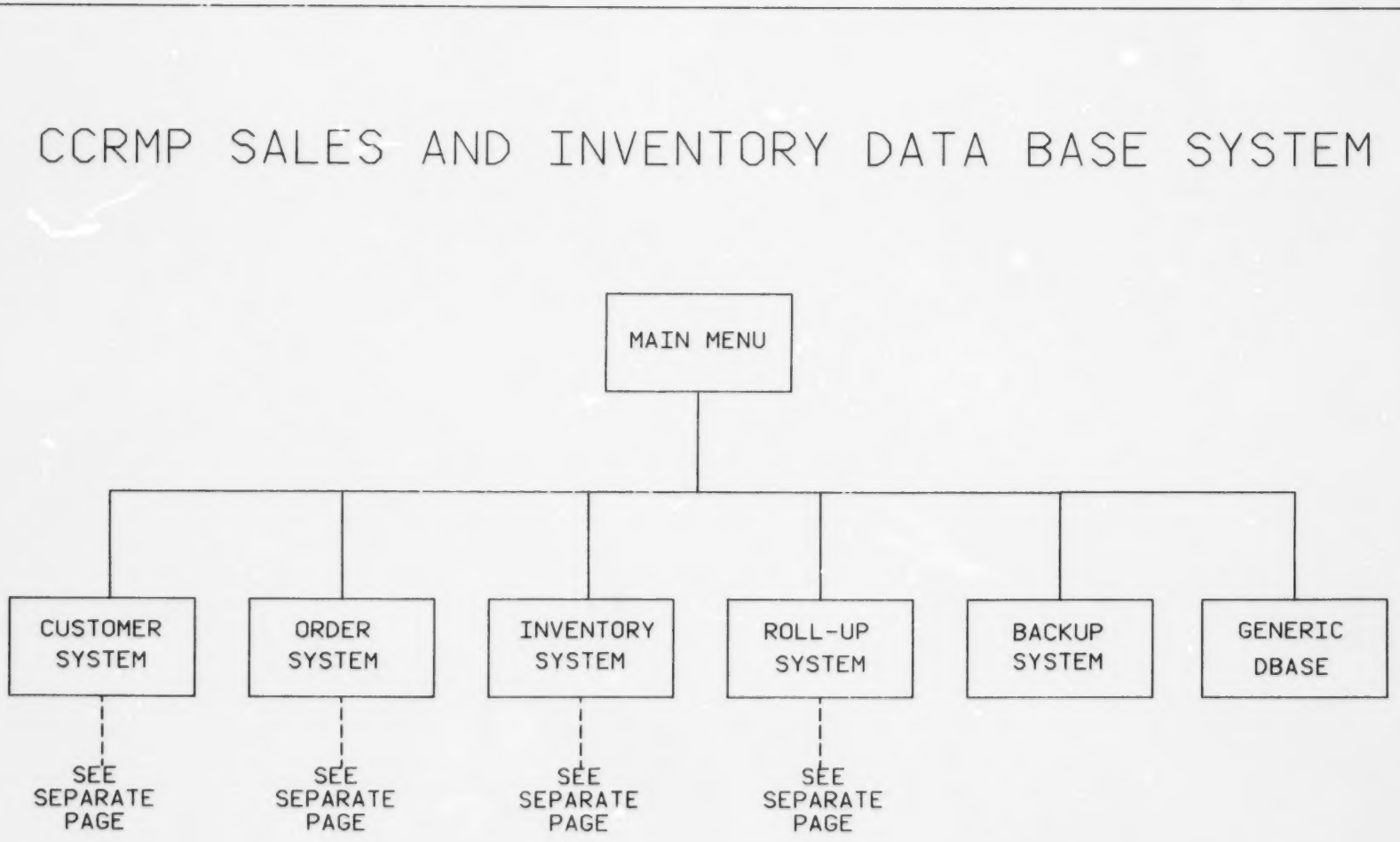

CCRMP SALES AND INVENTORY DATA BASE SYSTEM
MAIN MENU
CUSTOMER SYSTEM
ORDER SYSTEM
INVENTORY SYSTEM
ROLL-UP SYSTEM
BACKUP SYSTEM
GENERIC DBASE
SEE SEPARATE PAGE
SEE SEPARATE PAGE
SEE SEPARATE PAGE
SEE SEPARATE PAGE

Figure 2

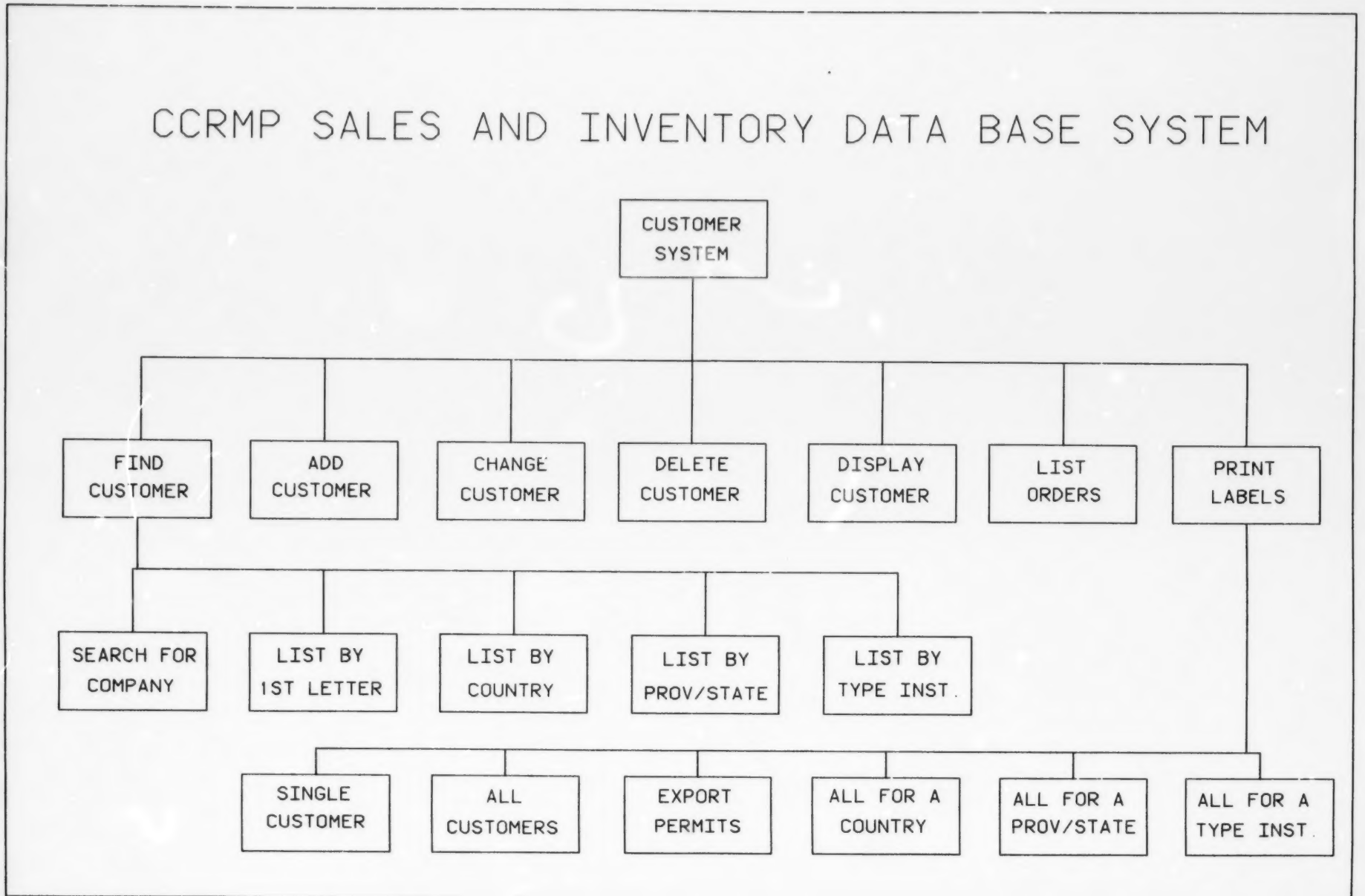

CCRMP SALES AND INVENTORY DATA BASE SYSTEM
CUSTOMER SYSTEM
FIND CUSTOMER
ADD CUSTOMER
CHANGE CUSTOMER
DELETE CUSTOMER
DISPLAY CUSTOMER
LIST ORDERS
PRINT LABELS
SEARCH FOR COMPANY
LIST BY 1ST LETTER
LIST BY COUNTRY
LIST BY PROV/STATE
LIST BY TYPE INST.
SINGLE CUSTOMER
ALL CUSTOMERS
EXPORT PERMITS
ALL FOR A COUNTRY
ALL FOR A PROV/STATE
ALL FOR A TYPE INST.

Figure 3

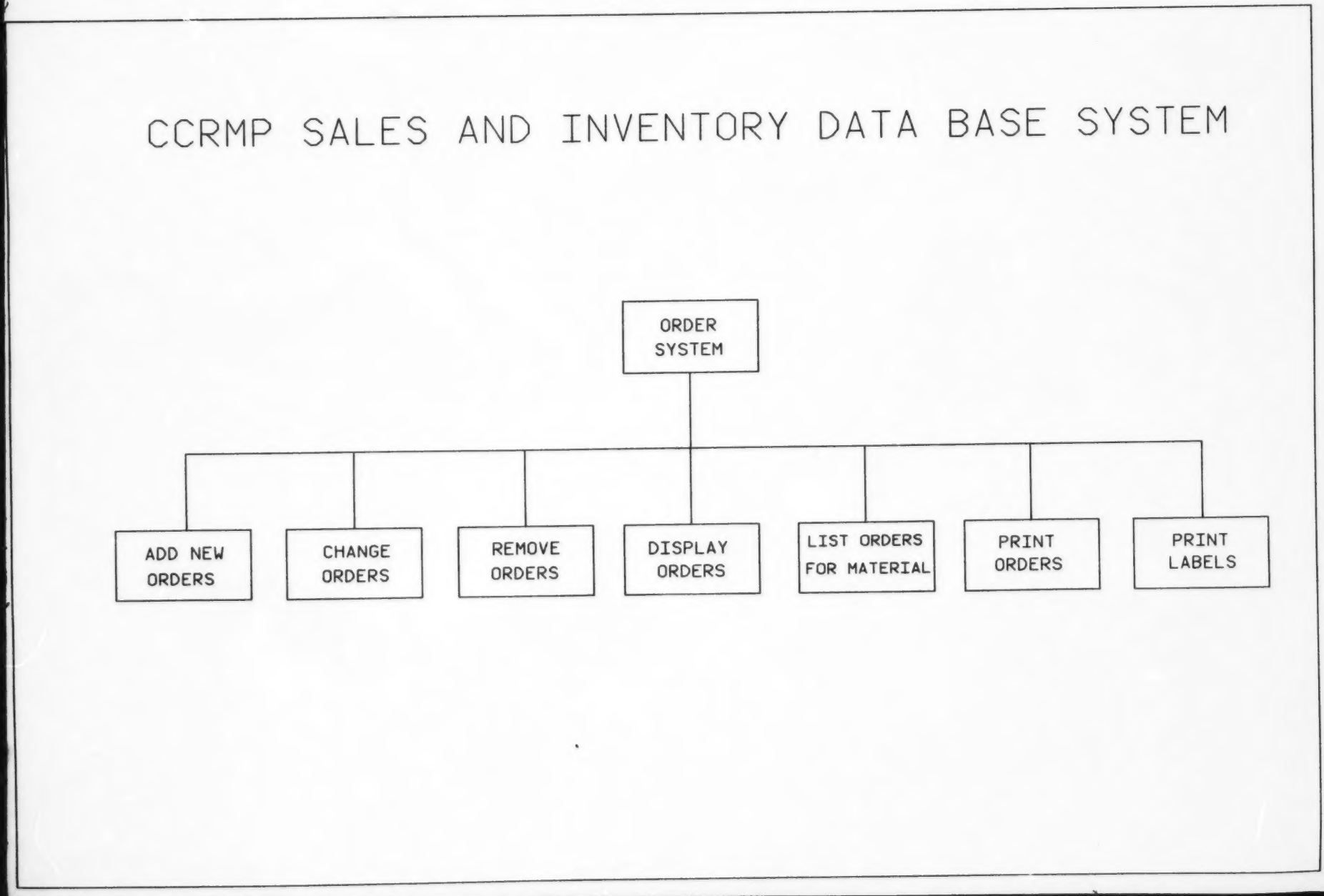

CCRMP SALES AND INVENTORY DATA BASE SYSTEM
ORDER SYSTEM
ADD NEW ORDERS
CHANGE ORDERS
REMOVE ORDERS
DISPLAY ORDERS
LIST ORDERS FOR MATERIAL
PRINT ORDERS
PRINT LABELS

Figure 4

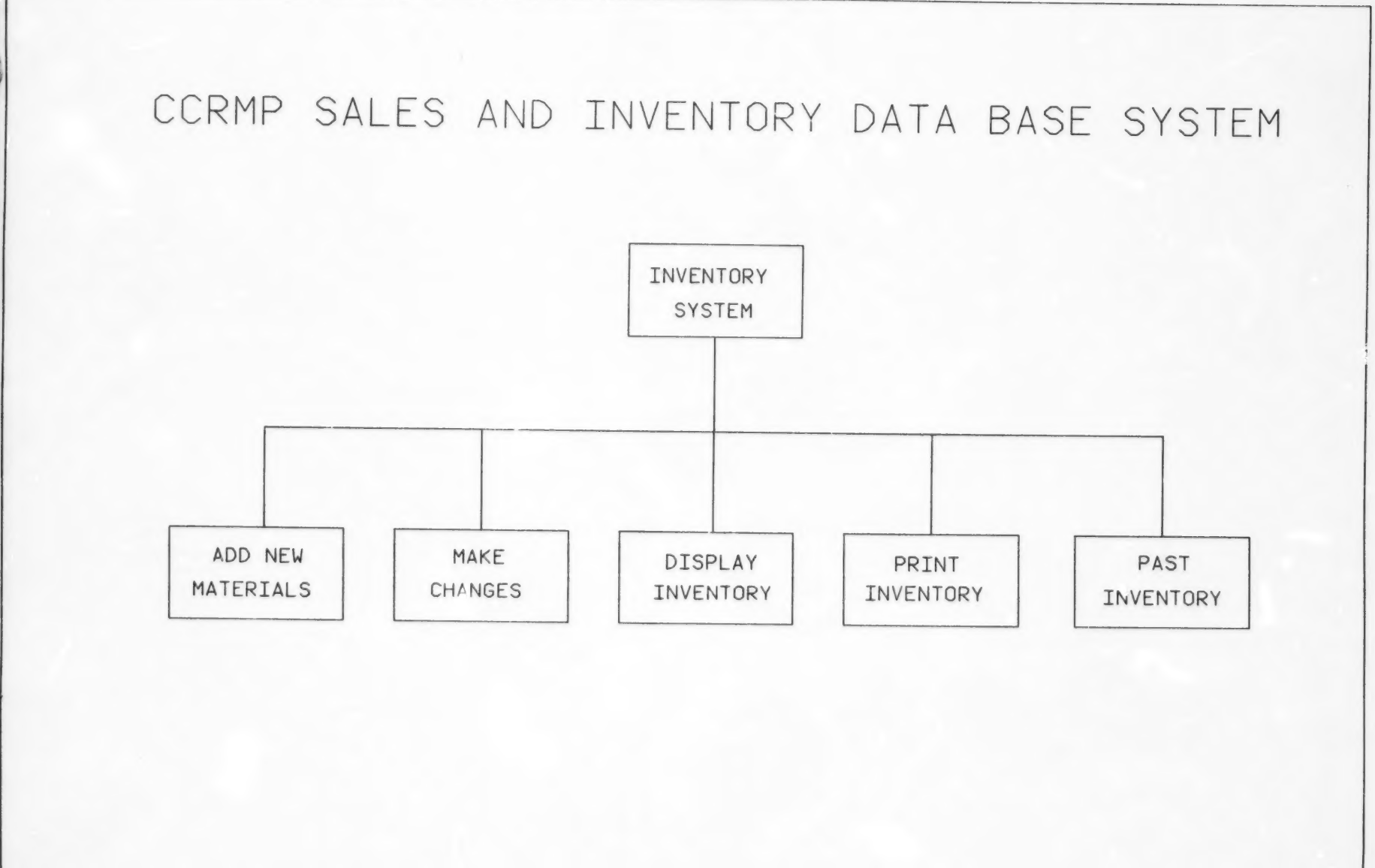
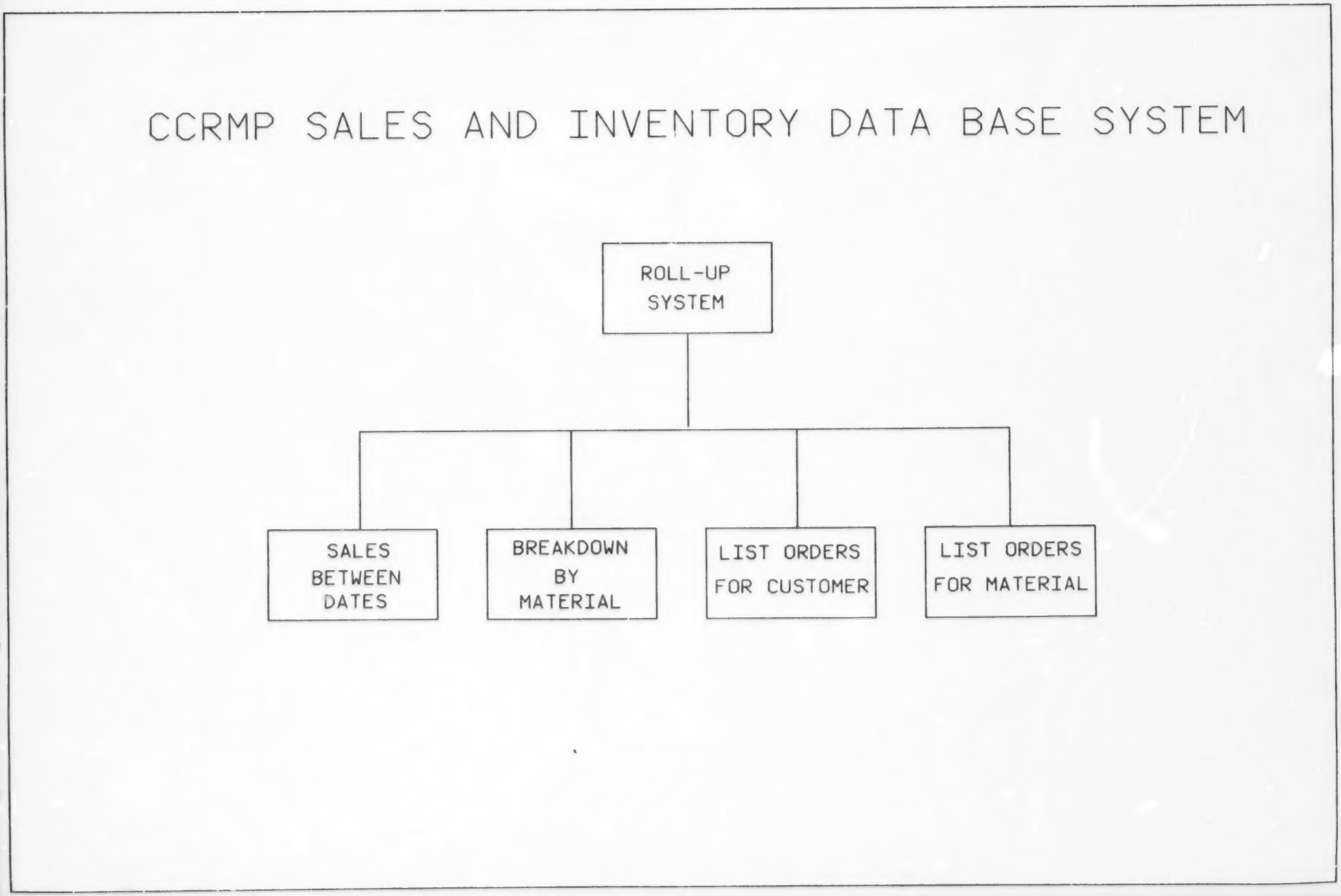

CCRMP SALES AND INVENTORY DATA BASE SYSTEM
INVENTORY SYSTEM
ADD NEW MATERIALS
MAKE CHANGES
DISPLAY INVENTORY
PRINT INVENTORY
PAST INVENTORY

Figure 5


CCRMP SALES AND INVENTORY DATA BASE SYSTEM
ROLL-UP SYSTEM
SALES BETWEEN DATES
BREAKDOWN BY MATERIAL
LIST ORDERS FOR CUSTOMER
LIST ORDERS FOR MATERIAL

APPENDIX

RELOADING FROM BACKUP

As of now, the ORDERS, ORDERITM, & INVENT databases and their indexes as well as the CUSTOMER index all fit on 1 diskette, which, for simplicity, is called the index diskette. The CUSTOMER database is too large for 1 diskette and needs a bit of space on a second (spare space on the index diskette has been used for this purpose rather than using a third). Because this database is in 2 parts, the indexes are not correct and steps must be taken to re-index the CUSTOMER database.

1. Copy all files from the index diskette onto the directory where the databases reside (C:\DBASE\CCRMP).

2. Copy CUSTOMER.DBF from the second diskette onto the same directory. This will overwrite an existing file.

3. Put the diskette containing the rest of CUSTOMER.DBF (probably the index diskette) in drive A: and start up dBASE. Go to the main menu. Type 'Esc' several times until a beep and message indicate that you have interrupted the program that was running. With the highlight on 'CANCEL', push 'Enter'. This should give you the 'dot prompt'.

4. Enter the following commands:

   ```
   USE CUSTOMER
   APPEND FROM A:CUSTOMER.DBF
   ```

   (The number of records should increase from 682 to well over 700)

5. Push 'F2' to go to the CONTROL CENTRE menu. Push 'Enter' to select CUSTOMER.DBF. Push 'M' to display the ORGANIZE menu. Push 'Esc'.

6. Change the INDEX tag from 'N' to 'Y' for the first two fields (CUST_NO and COMPANY). Push 'Alt-E', select 'save changes and exit'. You are asked to confirm; do so. The system will inform you that the index tags already exist - select 'overwrite'.

7. Push 'Enter' to select CUSTOMER.DBF. Push 'M' to display the ORGANIZE menu. Select 'Modify existing index'.

8. Select 'COUNTRY', push 'Enter'. No need to make any changes, just push 'Ctrl-End'.

9. Push 'Alt-O' to display ORGANIZE menu again. Select 'Modify existing index'.

10. Select 'PROVINCE', push 'Enter'. No need to make any changes, just push 'Ctrl-End'.

11. Push 'Alt-E' and select 'Save changes and exit'. You will be asked to confirm the selection; do so.

12 Push 'Alt-E' and select 'Exit to dot prompt'.

This completes the process. You can now 'QUIT' or 'DO MAIN' to start up the CCRMP menu.